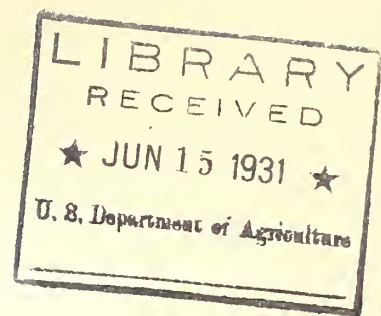


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STEM RUST AND BARBERRY NEWS

Issued by

Division of Barberry Eradication

Volume II

June 1, 1931

Number 3

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Bureau of Plant Industry
U. S. Department of Agriculture

INDEX

Epidemiology - - - - -	41
Eastern Region - - - - -	42
Western Region - - - - -	44
Personnel Notes - - - - -	49

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EPIDEMIOLOGY

(Reported by Miss Laura Hamilton)

Between April 27 and May 8 Dr. Cotter made a trip into Michigan for the purpose of making susceptibility tests of Mahonia. Plants were inoculated in the Botanic Garden at East Lansing, on a 1200 acre estate at Saugatuck, at Kalamazoo in a private garden, and in the Detroit City Nursery. Subsequent observations and notes on any infection that develops are being made by Mr. Powers.

On May 18 Mr. Starr completed a survey of the barberry locations in northern Missouri and Kansas. "Despite the fact that the weather during the spring was cooler and drier than normal," he states, "practically all of the 26 barberry plantings visited in 10 counties in northern Missouri were infected. Of these, 9 plantings showed moderate infection, 14 light infection, and 3 town plantings observed had no infection at all. Because of the backward spring the infection was almost entirely in the pycnial stage, during the time of observation from May 1 to May 12.

"In northern Kansas the 25 properties in 7 counties visited showed a considerably smaller amount of rust infection. In two of these plantings one or two bushes were very heavily rusted, one planting had a moderate amount, 7 were very lightly to lightly infected, 3 had only a trace of infection, and on 12 plantings both on town and country properties there was no rust at all."

Aecial infection on barberries had been reported by the 21st in the States east of the Mississippi, in Iowa, Missouri, and Kansas. No reports of infection have been received from Nebraska or South Dakota. Weather continues cool, and there is lack of moisture in some sections.

Rust reports to May 12 were summarized in Rust Reporter No. 1. Since that time observations have been made in northern Texas and Oklahoma, but no evidence of overwintering of stem rust has been found north of Denton, Texas, nor in Oklahoma. Traveling from Lawton, Okla., to Oklahoma City, Muskogee, and into the northeastern quarter of the State

between the 12th and 15th, Mr. Ukkelberg found leaf rust of wheat in all fields, a trace of crown rust in the northeastern section, but no stem rust. The earliest field observed was oats in the milk stage; most of the grain in the northern part ranged from boot to heading.

Slides were exposed by airplane during a south wind at Dallas, Texas, on May 8, and also during a south wind on the 15th at Muskogee, Okla. The wind on the 15th at Muskogee had been preceded, according to Ukkelberg, by a period of north winds of a week or more. Frequent airplane exposures are being made at Fort Riley, Kansas, and exposed slides already have been received from Ohio and Illinois. Slides have been sent to all Leaders for stationary exposures, and spore trapping has been begun in most of the eradication area. (May 23)

EASTERN REGION

Ohio - 8 East Broad St., Columbus - Harry Atwood

A squad of seven men has completed the rural survey in the western portion of Champaign County. Recently city survey in Urbana was started. The first half day on the survey in Urbana, common barberries were found growing on 10 properties.

A potted common barberry was placed on exhibition at the post office in Urbana. Posters, charts and bulletins were added to the display.

The local papers have been carrying articles on the front page telling about the common barberry and its relation to black stem rust on grains, also data relative to the progress of the survey in Champaign County.

Since May 12, infection on barberries has been found in Champaign, Logan, Hocking, Licking, Lucas, Montgomery, Perry, Preble, and Warren Counties.

Slides were exposed during airplane flights at Wright Field, Dayton, Ohio, previous to May 13. Additional exposures will be made during the period from May 25 to 29.

Roger U. Swingle, an Ohio barberry field agent, has been transferred to the Chemical Eradication project. At present he is located at Maumee, Ohio, where he is working with Mr. Draper to determine the effect of different chemicals as a killing agent for common barberry. Mr. Swingle was graduated from Ohio State University in March of this year. While at the University he majored in Plant Chemistry and Botany.

Indiana - Purdue Experiment Station Annex, West Lafayette - Wayne E. Leer

On May 21 eight field men started work in an area of escaped barberries west of Bedford in Lawrence County. Approximately 5,000 bushes were killed in this area in 1924. The bushes appear quite numerous at this time and practically all of them are heavily infected. Mr. McCoy found aecia in the area on May 14.

On May 22 those attending the spring meeting of the Indiana Academy of Science visited this area of escaped bushes. Everyone seemed interested in the area and in seeing the field men in action. For many of the group, it was their first opportunity to see such a large number of escaped barberries and to find such heavy infection this far south in the State.

During the second week of May, pycnia were found on escaped barberries in Marshall and Wabash Counties, and on planted bushes in St. Joseph County. (May 23)

Illinois - Post Office Building, Urbana - Robert W. Bills

Michigan - Michigan State College, East Lansing - Francis B. Powers

For the week ending May 16, Harry S. Hunter, squad leader in Wexford County, reports the eradication of 18 large bushes, 170 medium bushes, 860 small bushes, and 3,500 seedlings. This makes a total of 1,288 bushes eradicated in Wexford County since May 1.

Mr. George S. McIntyre completed his work in the rural schools and high schools of Van Buren and Kalamazoo Counties and is now working in Jackson County. He has diagramed locations of several bushes and personally eradicated eighteen.

The first pycnial infection was collected by Mr. McIntyre in Kalamazoo on May 11, and on one specimen aecia was developing. Aecial infection was reported by Mr. Hunter in Wexford County on May 19.

The Leader has been following up Doctor Cotter's inoculations of Mahonia aquifolium in Michigan and to date has found only pycnial infection. He found Berberis ilicifolia with aecial infection.

Weather vanes for exposing vaselined slides are being operated at East Lansing and Mesick. Daily exposures of twenty-four hours duration are being made.

Wisconsin - State Capitol Annex, Madison - Vern O. Taylor

Survey work in Iowa County has yielded more than 500 bushes the past three weeks. Many large, fruiting bushes were among this number, and the crew is continually encountering farms with a number of bushes on them. The crew is working over a mile away from the original center of infestation at present and the territory continues rough and wooded.

The intensive educational program was terminated on May 9, and the results will no doubt be of value in planning future procedure. When Mr. Cate has finished the draft of his talk the report will be forwarded to Washington.

The Leader made trips to areas of escaped bushes in Green Lake, Waushara, and Grant Counties during the latter part of the month, and found the areas to be more extensive and infested with bushes than was formerly thought.

The first mature aecia was found on May 18 in Dane County and on May 22 aecia was collected in Grant County. On May 21 nothing could be found on the bushes in Iowa County, and the men have not reported mature aecia up to the time of writing, although it is expected that they may be found after this warm weather.

Arrangements are being made whereby box holder letters telling of survey work to be carried on in the various localities will be mailed from the county agent's offices. It is not known how closely the letter can be kept to a locality as the rural mail routes are somewhat meandering. The postmasters know which routes cover the desired territories and offer ready cooperation.

The 1930 Progress Reports were mailed to approximately 2,100 individuals and business concerns on our mailing lists. (May 26)

WESTERN REGIONMinnesota - University Farm, St. Paul - Leonard W. Melander

The intensive school campaign which we have been conducting since the 16th of April is about to come to a close. The reason for this is that many of the rural schools are closing. We were successful in completing three counties before any great number of rural schools had closed. These were Nicollet, Renville, and Rice Counties. We also covered most of the schools in Mecker and Wasceca Counties; however, next fall it will be necessary for us to go back and get the short term schools that had

closed before the barberry men were able to get there. The following results have been obtained so far this spring in the school campaign:

<u>County</u>	<u>Medals Awarded</u>	<u>Number Bushes</u>
Meeker	2	26
Nicollet	1	1
Renville	2	3
Rice	4	8+
Waseca	4	50
Totals	13	88+

These results are not final because it has been our experience that school children will continue to send in material from time to time. In addition, we have awarded 9 medals, representing 27 bushes this spring as a result of other activities.

About 18 counties have adopted the Redwood or the section representative plan of weed inspection. Early in June we plan to send enough special posters to the county agents for each section representative. On this poster is a simple key to which they can refer in case they want to identify a common barberry. There is one obvious effect that this plan of weed inspection is having on the farmers in these counties. It is making the people "weed-minded." By this I mean that the people are getting very anxious to know what all of the real noxious weeds look like. Consequently, they collect a lot of specimens and want to know what they are. If we can get them to look for barberry in the same way we will be accomplishing a great deal. By the spirit shown at several of the township organization meetings that we have attended, there is a general awakening as to the seriousness of the weed situation. All of those in attendance at these meetings seem to be determined to do something about weeds in their respective sections. They also seem very much interested in barberry eradication and will no doubt find some bushes this year.

For some reason or other the rust on common barberry seems to be slow in developing this year. The first pycnia was found May 7 in Goodhue County. The infection this year is exceptionally light. We are hoping the infection on grain will be light also. (May 23)

Iowa - Morrill Hall, I.S.C., Ames - D. R. Shepherd

The special intensive educational project that we have been conducting in Linn County this spring with the rural schools has been completed with the exception that most of the bushes still remain to be taken out. To date we have received 34 reports from rural school children. These

reports are of 34 properties on which harmful barberries are growing. The number of bushes on each property ranges from one to approximately 400 in the case of the largest areas. We have found several escaped areas with 100 to 200 bushes, many that range from 5 to 35. Mr. Brown, who has been stationed at Cedar Rapids, has been removing the bushes where the areas have been small, however, it will be necessary for us to put a squad of men in that county during the middle of June in order to destroy the large number of bushes that have been reported. Three new properties have been reported by these pupils since the completion of the county. The pupils have sent twigs of the harmful barberry into the office.

Mr. Brown has organized each of the rural schools in this county into Rust Busters Clubs and the pupils have elected officers. Before leaving, Mr. Brown urged the President of each club to write to him often indicating any of the activities of the club and also indicating whether or not any new bushes had been found. The pupils have responded very fine to this suggestion, and as a result of this Mr. Brown has received more than 20 letters from the Presidents of these various clubs. It is interesting to note that the trend of thought in all of these letters is that the pupils are continuing to look for the barberries and will continue to do so after school is out. Some of them have been looking forward to the time that school will be out so that they can have more time to look about their places. One boy says, "No plantings of barberries have been reported to me as yet but I know our members are working." Another says, "Our school is out and I thought that I would drop you a few lines to tell you that we are still hunting for barberries." Another writes, "As yet no one has found any more barberries but we are looking for them. Perhaps when we go to the Palisades on Play Day we might find some." It is encouraging to know that these pupils are still thinking in terms of barberry eradication although the official representative of the Department is not there with them.

We have 6 men scouting for barberry along the Missouri River in Woodbury County this spring. Most of this river territory should be completed by the end of this week. They have found that it is very desirable to work in this type of territory early in the spring whenever possible because the weeds and underbrush have not yet made a rank growth. The weather conditions are much more favorable for this type of survey at this time of the year. We started our work on the river the 21st of April and at that time the barberries were well enough leafed out that they could be easily identified. To date we have found approximately 9 plantings of bushes in this county; 5 of these have been on the river and 4 have been pick-ups on city survey during the rainy weather. This makes it evident that we should find quite a number of plantings in this county before it is completed.

The last of the barberry training school meetings was held on Tuesday, May 19. There were 13 new men and 14 old men present. The

meeting was devoted mostly to demonstrating approaches to farmers and men in the community with whom contacts are usually made. Ed Syndergaard, who was with our field forces last summer and who is now county agent in Winnebago County, sat in on our meeting last night. Mr. Syndergaard reports that the county agent work is progressing nicely in his county but to date that he has found no barberry bushes. We worked out Winnebago County last year and the men who were stationed there are hoping that Ed will not find any bushes. (May 20)

District No. 1 - State College Station, Fargo, N. Dak. - G. C. Mayoue

Montana and North Dakota - The educational work in the schools of Sheridan County, Montana, and Richland County, North Dakota, was recently completed. According to county superintendents of schools, county agents and others, this work was well received.

The Montana agents are now carrying on resurvey in Richland County and the North Dakota agents are doing the same type of survey in Stutsman County. Resurvey will be the principal field activity in both States during the remainder of May and the month of June.

As a result of Rust Buster Club work carried on in the schools of Dawson County, Montana, last fall, Francis L. Lee, 7th grade pupil of Glendive, reported one large barberry and several seedlings. This is the first find to be reported from Montana as a result of the new type of educational work in the schools. Two locations of barberries were recently found by school children of the grades in Richland County, North Dakota, where the educational work in the schools was completed about two weeks ago.

There are good evidences that information relative to the Rust Buster Club work is reaching into counties where this work has not been carried on because within the last ten days one location of barberries was found by a high school student in McHenry County and a second find by a high school student in Morton County of North Dakota. These finds show the importance of also talking to the high school students of a school in which the grade pupils are addressed and organized into the National Rust Busters Club.

The District Leader and Mr. Twilde, assistant leader of Montana, were at the Montana State College, Bozeman, the first part of May conferring with college officials and Collaborator H. E. Morris, selecting the personnel for the season, and making arrangements in detail for the spring and summer field activities. A few days were spent working with the agents carrying on educational work in Sheridan County of that State.

The District Leader and Mr. Roberts, assistant leader of North Dakota, had a conference in Minneapolis May 15 and 16 with Messrs. Popham,

Fletcher, and George, relative to the various field activities of the District, and particularly demonstrations.

Approximately all requests for appointments for the District on or before the 1st of July have been submitted to Washington. (May 23)

District No. 2 - State College Station, Brookings, S. Dak. - R. O. Bulger

Selection of the field men for barberry eradication has been completed in District No. 2. A total of 32 men will be employed in the District, with 16 in each State. Appointments are being requested effective June 15. A short conference will be held before the men leave for the field.

Educational activities during June will consist largely of 4-H Club work in connection with the club camps. In South Dakota a new feature is being prepared this year. Through the courtesy and help of Messrs. Fletcher and George a short playlet has been prepared and will be given by selected 4-H Club members at each camp. The characters consist of the following: (1) the puritan father, (2) Uncle Sam, (3) the farmer, (4) old man weather, (5) Dr. Science, (6) farm boys, (7) the barberry bush, (8) the grain, (9) spores (six), and (10) eradicators (three). This makes a total of 18 people in the cast. Costumes are being prepared which will properly picture each character.

In addition to the playlet, instruction on stem rust will be given in the morning classes to all of the boys at each camp. Most of the club camps in Nebraska are held in July.

Mr. Yount has developed a rather unusual method of exposing the slides in various parts of Nebraska in cooperation with Dr. Cotter's office. Members of the Future Farmers organization are taking care of this part of it. They are exposing slides according to direction, and are also keeping the other necessary data. In this way it is possible to have slides exposed in practically every section of the State. (May 22)

District No. 3 - Agricultural College, Fort Collins, Colo. - E. A. Lungren

Field work started in western Nebraska May 20. Mr. Farnham is working in Box Butte County and at the present time making his headquarters at Alliance, Nebraska. The District Leader was in Alliance on May 20 and 21 to assist Mr. Farnham in getting the work started in that section. Although the grain is somewhat late, the weather conditions are becoming more favorable for its development.

On May 23 a joint conference between the field men and cooperators of Wyoming and Colorado was held at the botany department at Fort Collins. The speakers on the morning program were men from the botany department and extension service. Following the morning session, a field trip was held where the men were schooled on various types of scouting in the different areas in Larimer County. On June 1 all of our teams will go into the field. In Colorado we will have one team in Fremont County and one in Pueblo County. In Wyoming there will be a team in Converse County and also one in the northern part of the State located in Campbell County. In western Nebraska the work will continue in the North Platte Valley.

Progress reports which we recently received have been mailed to county agents, Smith-Hughes teachers, grain elevators, nurserymen, seed dealers, and cooperators in Colorado and Wyoming. We also sent reports to many of the grade and high school teachers who have used our teaching material this year.

The Colorado Extension Service has recently published 5,000 circulars "Bust the Rust" and also a circular letter to be used in Fremont and Pueblo Counties this season. By the aid of the county agents in these two counties it is planned to send a circular letter and one of the State circulars to each farmer in the county.

Just a Word of Praise

The early submission of applications for appointments of the field agents is thoroughly appreciated by the entire Washington office personnel.

This method has been distinctly advantageous and has proven so very superior to the old order of procedure that we can not be too loud in our praise of the cooperation by the Leaders in Charge who have made it possible to eliminate the last minute rush and agitation caused by the receipt of from 225 to 250 recommendations for appointments all at the same time and to be made effective on practically the same dates.

A. C. Hoffman

PERSONNEL NOTES

Dr. Ralph M. Caldwell, formerly Leader of Barberry Eradication in Wisconsin but now located at Purdue University, Lafayette, Indiana, was an office visitor on May 29.

Mr. Lawrence M. Ames has recently been appointed. He will work on the preparation of a handbook of barberries for use of the Leaders and others interested in the taxonomy of the group. It is expected that as nursery inspection develops he will be able to handle a portion of this

work. Mr. Ames maintains an office at the Cryptogamic Laboratories, Harvard University, and is also conducting studies at Arnold Arboretum, Gray Herbarium, and near-by nurseries. His work is under the immediate supervision of Dr. Wm. H. Weston, Jr., a collaborator and will be correlated with the taxonomic studies which have for some time been under way and will be continued by Mr. Morrison who is now in Europe.

Mr. Earle Hanson, field agent in Minnesota, was called home recently by the death of his mother. The deepest sympathy is extended to Mr. Hanson in his late bereavement.

Mr. Kenneth W. Ingwalson, who looks after the barberry interests at 4-H Club camps and county fairs in Minnesota, was awarded the Dean Freeman leadership medal. This medal is awarded to the senior in the College of Agriculture, Forestry, and Home Economics who has made the greatest contribution to student life on the campus.

Mr. Sylvan T. Warrington, field agent in Minnesota, won the A. D. Wilson prize of \$40. This was awarded for presenting the best essay on cooperation in Agriculture.

The following letter from Mrs. N. L. Alcock, Plant Pathologist, in Scotland, was received after she had received a package containing educational material.

UNIVERSITY DEPARTMENT OF BOTANY,
Royal Botanic Garden,
Inverleith Row,
Edinburgh.

15th May, 1931.

Dear Mr. Meier:

Your letter of April 28th has just arrived along with the parcels of folders, leaflets and specimens. They are exceedingly good, beautifully put up, and will prove of very great use in the demonstration this next month.

I am greatly indebted for your kindness and promptness in sending these folders, etc., you are all so kind to us. If at any time we can be of use to you, you have only to ask.

Again thanking you,

Yours sincerely

N. L. Alcock.
Plant Pathologist.